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NEWS 2 Jan 25 BLAST(R) searching in REGISTRY available in STN on the Web
NEWS 3 Jan 29 FSTA has been reloaded and moves to weekly updates
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NEWS 5 Feb 19 Access via Tymnet and SprintNet Eliminated Effective 3/31/02
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NEWS 7 Mar 22 TOXLIT no longer available
NEWS 8 Mar 22 TRCTHERMO no longer available
NEWS 9 Mar 28 US Provisional Priorities searched with P in CA/CAplus and USPATFULL
NEWS 10 Mar 28 LIPINSKI/CALC added for property searching in REGISTRY
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NEWS 12 Apr 08 "Ask CAS" for self-help around the clock
NEWS 13 Apr 09 BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS 14 Apr 09 ZDB will be removed from STN
NEWS 15 Apr 19 US Patent Applications available in IFICDB, IFIPAT, and IFIUDB

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CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP),
AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002

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<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

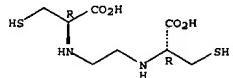
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=> e ethylenedicycysteine
E1      3    ETHYLENEDICYCLOPENTADIENYL/BI
E2      3    ETHYLENEDICYCLOPENTADIENYLENE/BI
E3      1 --> ETHYLENEDICYSTEINE/BI
E4      1    ETHYLENEDIEPHEDRIN/BI
E5      1    ETHYLENEDIEPHEDRINATO/BI
E6      2    ETHYLENEDIGLUC/BI
E7      2    ETHYLENEDIGLUCAMIDE/BI
E8      1    ETHYLENEDIGLUTAM/BI
E9      1    ETHYLENEDIGLUTAMIC/BI
E10     1    ETHYLENEDIGLUTAR/BI
E11     1    ETHYLENEDIGLUTARIMIDE/BI
E12     2    ETHYLENEDIGLYC/BI

=> s e3
L1      1    ETHYLENEDICYSTEINE/BI

=> d
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L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2002 ACS
 RN 14344-49-0 REGISTRY
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Cysteine, N,N'-ethylenedi- (6CI)
 CN Cysteine, N,N'-ethylenedi-, L- (8CI)
 OTHER NAMES:
 CN L,L-Ethylenedicysteine
 CN N,N'-1,2-Ethanediylbis-L-cysteine
 CN N,N'-Ethylenedi-L-cysteine
 FS STEREOSEARCH
 DR 378230-72-9
 MF CS H16 N2 O4 S2
 CI COM
 LC STN Files: ANABSTR, BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, TOXCENTER,
 USPAFTULL
 (*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

43 REFERENCES IN FILE CA (1967 TO DATE)
 15 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 43 REFERENCES IN FILE CAPLUS (1967 TO DATE)
 1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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 COST IN U.S. DOLLARS
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=> s 11
 L2 49 L1

=> dup rem 12
 PROCESSING COMPLETED FOR L2
 L3 45 DUP REM L2 (4 DUPLICATES REMOVED)

=> s 12 and (anti(w)cancer? or dna or anti(w)metabolit? or tumor? or tumour? or folate? or apoptot? or hypoxia? or peptide? or nucleotid? or organ? or antibiotic? or anti(w)fungal? or antibod? or glutamat? or glucos?)
 3 FILES SEARCHED...

L4 16 L2 AND (ANTI(W) CANCER? OR DNA OR ANTI(W) METABOLIT? OR TUMOR?
 OR TUMOUR? OR FOLATE? OR APOPTOT? OR HYPOXIA? OR PEPTIDE? OR NUCLEOTID? OR ORGAN? OR ANTIBIOTIC? OR ANTI(W) FUNGAL? OR ANTIBO D? OR GLUTAMAT? OR GLUCOS?)

=> dup rem 14
 PROCESSING COMPLETED FOR L4
 L5 15 DUP REM L4 (1 DUPLICATE REMOVED)

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 YOU HAVE REQUESTED DATA FROM 15 ANSWERS - CONTINUE? Y/(N):y

LS ANSWER 1 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 2001:885838 CAPLUS
 DOCUMENT NUMBER: 136:17356
 TITLE: Ethylenedicycysteine (ec)-drug conjugates, compositions and methods for tissue specific disease imaging
 INVENTOR(S): Yang, David J.; Liu, Chun-wei; Yu, Dong-fang; Kim, E. Edmund
 PATENT ASSIGNEE(S): Board of Regents The University of Texas System, USA
 SOURCE: PCT Int. Appl. 176 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001091807	A3	20011206	WO 2001-US18060	20010601
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
GW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, T2, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CP, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			US 2000-587583	A1 20000602
			US 2000-599152	A1 20000621

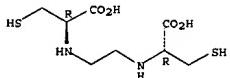
AB The invention provides, in a general sense, a new labeling strategy employing 99m Tc chelated with ethylenedicycysteine (EC). EC is conjugated with a variety of ligands and chelated to 99m Tc for use as an imaging agent for tissue-specific diseases. The drug conjugates of the invention may also be used as a prognostic tool or as a tool to deliver therapeutics to specific sites within a mammalian body. Kits for use in tissue-specific disease imaging are also provided.

IT 14344-48-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of radiolabeled ethylenedicycysteine-drug conjugates for tumor targeting)

RN 14344-48-0 CAPLUS

CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 14344-48-ODP, Annexin V conjugate
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

LS ANSWER 2 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 2001:293410 CAPLUS
 DOCUMENT NUMBER: 135:376612
 TITLE: Potential 166Ho radiopharmaceuticals for intravascular radiation therapy (IVRT)-I : [166Ho] holmium labeled ethylene dicycysteine
 AUTHOR(S): Chakraborty, S.; Unni, P. R.; Banerjee, S.; Samuel, G.; Das, T.; Sarma, H. D.; Ramamoorthy, N.; Pillai, M.

R. A.
 CORPORATE SOURCE: Radiopharmaceuticals Division, Bhabha Atomic Research Centre, Mumbai, 400085, India
 SOURCE: Nuclear Medicine and Biology (2001), 28(3), 309-317
 CODEN: NMIBEO; ISSN: 0969-8051
 PUBLISHER: Elsevier Science Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

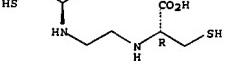
AB The use of β -emitting radionuclides in the control of restenosis in post angioplasty patients is currently under intense investigation at many leading cardiovascular research centers. 32P coated metallic stents, 192Ir wire source and balloons filled with an appropriate radionuclide soln. such as of 188Re, attached to catheter are being studied. 166Ho has comparable radionuclidic properties to that of 188Re, can be more easily produced and hence is an attractive alternative to 188Re. Ethylene dicycysteine complex of 166Ho was prep'd. and its pharmacol. behavior studied. Optimum conditions for the prepn. of complex with respect to the reaction time, ligand concn., pH of the reaction mixt. as well as reaction temp. were standardized. The stability of the labeled complex at room temp. as well as at 4 degree C was detd. Biodistribution pattern of the injected complex in Wistar rats was estd. at 10 min, 30 min and 3 h post injection. This study indicated that >90% of the injected 166Ho-EC complex was excreted in urine within 3 h post injection, with insignificant retention in any major organ. These studies reveal that 166Ho-EC could be a viable substitute for 188Re compds. in radioactive lig.-filled balloon IVRT.

IT 14344-48-ODP, L,L-Ethylene dicycysteine, 166Ho-labeled
 RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
 (prepn. and biodistribution of 166Ho-labeled ethylene dicycysteine)

RN 14344-48-0 CAPLUS

CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

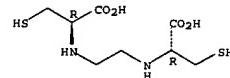
Absolute stereochemistry.



REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LS ANSWER 1 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)
 (prepn. of radiolabeled ethylenedicycysteine-drug conjugates for tumor targeting)
 RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



LS ANSWER 2 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)

LS ANSWER 3 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 2001:244144 CAPLUS
 DOCUMENT NUMBER: 135:253846
 TITLE: In vivo and in vitro measurement of apoptosis in breast cancer cells using 99mTc-EC-annexin V
 AUTHOR(S): Yang, David J.; Azhdarinia, Ali; Wu, Peng; Yu, Dong-Pang; Tansey, Wayne; Kalimi, Saady Kohanim; Kim, E. Edmund; Podoloff, Donald A.
 CORPORATE SOURCE: Department of Nuclear Medicine, The University of Texas M. D. Anderson Cancer Center, Houston, TX, 77030, USA
 SOURCE: Cancer Biotherapy & Radiopharmaceuticals (2001), 16(1), 73-83
 PUBLISHER: CODEN: CBRAFJ; ISSN: 1084-9785
 DOCUMENT TYPE: Mary Ann Liebert, Inc.
 LANGUAGE: English

AB The purpose of this study was to develop an imaging technique to measure and monitor tumor cells undergoing programmed death caused by radiation and chemotherapy using 99mTc-EC-annexin V. Annexin V has been used to measure programmed cell death both in vitro and in vivo. Assessment of apoptosis would be useful to evaluate the efficacy and mechanisms of therapy and disease progression or regression. Ethylenedicycysteine (EC) was conjugated to annexin V using sulfo-N-hydroxyuccinimide and 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide-HCl as coupling agents. The yield of EC-annexin V was 100%. In vitro cellular uptake, pre- and post-radiation (10-30 Gy) and paclitaxel treatment, was quantified using 99mTc-EC-annexin V. Tissue distribution and planar imaging of 99mTc-EC-annexin V were detd. in breast

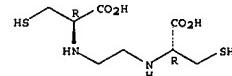
tumor-bearing rats at 0.5, 2, and 4 h. To demonstrate in vivo cell apoptosis that occurred during chemotherapy, a group of rats was treated with paclitaxel and planar imaging studies were conducted at

0.5-4 h. Computer outlined region of interest (ROI) was used to quantify tumor uptake on day 3 and day 5 post-treatment. In vitro cellular uptake showed that there was significantly increased uptake of 99mTc-EC-annexin V after irradn. (10-30 Gy) and paclitaxel treatment. In vivo biodistribution of 99mTc-EC-annexin in breast tumor-bearing rats showed increased tumor-to-blood, tumor-to-lung and tumor-to-muscle count d. ratios as a function of time. Conversely, tumor-to-blood count d. ratios showed a time-dependent decrease with 99mTc-EC in the same time period. Planar images confirmed that the tumors could be visualized clearly with 99mTc-EC-annexin. There was a significant difference of ROI ratios between pre- and post-paclitaxel treatment groups at 2 and 4 h post injection. The results indicate that apoptosis can be quantified using 99mTc-EC-annexin and that it is feasible to use 99mTc-EC-annexin to image tumor apoptosis.

IT 14344-48-0DP, L-L-Ethylenedicycysteine, 99Tc-labeled annexin V
 conjugate
 RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
 (99mTc-EC-annexin V measurement of apoptosis in breast cancer)

LS ANSWER 3 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)
 RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

LS ANSWER 4 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 2000:868003 CAPLUS
 DOCUMENT NUMBER: 135:42804
 TITLE: 188Re-ethylene dicysteine: a novel agent for possible use in endovascular radiation therapy
 AUTHOR(S): Das, T.; Banerjee, S.; Samuel, G.; Sarma, H. D.; Ramamoorthy, N.; Pillai, M. R. A.
 CORPORATE SOURCE: Radiopharmaceuticals Division, Bhabha Atomic Research Centre, Mumbai, 400 085, India
 SOURCE: Nuclear Medicine Communications (2000), 21(10), 939-945
 PUBLISHER: CODEN: NMCDCC; ISSN: 0143-3636
 DOCUMENT TYPE: Lippincott Williams & Wilkins
 LANGUAGE: Journal English

AB Several agents, such as 188ReO₄, 188Re-MAG3 and 188Re-DTPA are currently under investigation as radiation sources in lig.-filled balloons for prevention of restenosis following coronary angioplasty. Bearing in mind the risk factor assoc'd. with leakage of radioactivity in the event of balloon rupture, the criteria sought in selecting suitable agents for endovascular radiation therapy (EVRT) are rapid clearance and low dose to vital organs. Since 99Tcm labeled ethylene dicysteine (EC) is a well established agent for renal tubular function imaging, the use of 188Re-ethylene dicysteine as a potential agent for prevention of restenosis after angioplasty has been evaluated previously. Therefore,

it was of interest to evaluate the applicability of the more potent isotope of rhenium, 188Re, a high energy .beta.-emitter ($E_{\beta\max} = 2.12$ MeV) with a suitable $T_{1/2} = 16.9$ h, obtainable carrier-free from the 188W-188Re generator, as an attractive and alternative radionuclide for labeling with L,L-EC. In this paper, the prep. and pharmacol. behavior of the 188Re complex of ethylene dicysteine are reported. The complex can

be prepd. in high yields (99.5%) under optimized conditions of pH 2-3, at a ligand concn. of 15 mM, 50 .mu.g (0.18 mM) carrier rhenium and using 2 mg.cndot.ml-1 stannous chloride. On storage at 4.degree.C, the RC purity

was more than 97% after 48 h when prepd. under optimum conditions. Biodistribution studies in Wistar rats showed the desired characteristics of fast blood clearance and low retention of activity in the vital organs (<2% in intestine, <1% in stomach, <0.5% in liver) with a high renal excretion (90.65 .+_. 0.6%) at 3 h post-injection. These results confirm the advantages of using the 188Re-EC complex compared with

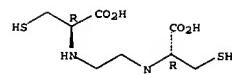
perhexate and other rhenium radiopharmaceuticals currently being used in balloons for EVRT.

IT 14344-48-0DP, L-L-Ethylenedicycysteine, rhenium-188 complex
 RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
 (188Re-ethylene dicysteine: use in endovascular radiotherapy)

RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

LS ANSWER 4 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)

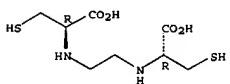


REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

LS ANSWER 5 OF 15 USPATFULL
 ACCESSION NUMBER: 1999-146773 USPATFULL
 TITLE: Metal chelates as pharmaceutical imaging agents, processes of making such and uses thereof
 INVENTOR(S): Marzilli, Luigi G., Atlanta, GA, United States
 Lipowka, Małgorzata, Decatur, GA, United States
 Hansen, Lory, Atlanta, GA, United States
 Taylor, Jr., Andrew, Atlanta, GA, United States
 PATENT ASSIGNEE(S): Emory University, Atlanta, GA, United States (U.S. corporation)

NUMBER	KIND	DATE
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PATENT INFORMATION: US 5986074	19991116	
APPLICATION INFO.: US 1997-993219	19971218 (8)	
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1996-643413, filed on 6 May 1996, now abandoned		
DOCUMENT TYPE: Utility		
FILE SEGMENT: Granted		
PRIMARY EXAMINER: Gonzalez, Porfirio Nazario		
LEGAL REPRESENTATIVE: Greenlee, Winner and Sullivan, P.C.		
NUMBER OF CLAIMS: 14		
EXEMPLARY CLAIM: 1,9,12		
NUMBER OF DRAWINGS: 10 Drawing Figure(s); 14 Drawing Page(s)		
LINE COUNT: 1504		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB The present invention relates to novel metal chelates, exemplified as technetium-99m or rhenium chelates, and to the process of preparing such metal chelates from corresponding ligands. These ligands and their corresponding metal chelates are synthesized to have a cysteinyldiethylene (EC) structure, a monothiourea (MTU) structure, or a dithiourea (DTU) structure. The present invention further relates to a pharmaceutical composition comprising a metal chelate, for example, a ^{99m} Tc-chelate, to the use of the composition for renal imaging and examination of renal function, and to a kit for preparing such a composition prior to use.		
IT 14344-48-0, L,L-Ethylenedicysteine (reactant for prep. of ^{99m} Tc chelate as potential pharmaceutical imaging agent)		
RN 14344-48-0 USPATFULL		
CN L-Cysteine, N,N'-1,2-ethanediylbis- (9CI) (CA INDEX NAME)		

Absolute stereochemistry.



LS ANSWER 6 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

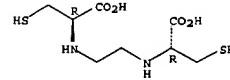
LS ANSWER 6 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1999-328157 CAPLUS
 DOCUMENT NUMBER: 131:127222
 TITLE: Noninvasive assessment of tumor hypoxia with ^{99m}Tc labeled metronidazole
 AUTHOR(S): Yang, David J.; Ilgan, Seyfettin; Higuchi, Tetsuya; Zareneyrizi, Fereshteh; Oh, Chang-Sok; Liu, Chun-Wei; Kim, E. Edmund; Podoloff, Donald A.
 CORPORATE SOURCE: Department of Nuclear Medicine, The University of Texas M. D. Anderson Cancer Center, Houston, TX, USA
 SOURCE: Pharmaceutical Research (1999), 16(5), 743-750
 CODEN: PHREEB; ISSN: 0724-8741
 PUBLISHER: Kluwer Academic/Plenum Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The assessment of tumor hypoxia by imaging modality prior to radiation therapy would provide a rational means of selecting patients for treatment with radiosensitizers or bioreductive drugs. This study aimed to develop a ^{99m}Tc-labeled metronidazole (MN) using ethylenedicycysteine (EC) as a chelator and evaluate its potential use to image tumor hypoxia. EC was conjugated to amino analog of MN using sulfo-N-hydroxysuccinimide and 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide-HCl as coupling agents, the yield was 55%. Tissue distribution of ^{99m}Tc-MN was detd. in breast tumor-bearing rats at 0.5, 2, and 4 h. Planar imaging and whole-body autoradiograms were performed. The data was compared to that using ^{99m}Tc-EC (control), [¹⁸F]fluoromisonidazole (FMISO) and [¹³¹I]iodomisonidazole (IMISO). In vivo biodistribution of ^{99m}Tc-EC-MN in breast tumor-bearing rats showed increased tumor-to-blood and tumor-to-muscle ratios as a function of time. Conversely, tumor-to-blood values showed time-dependent decrease with ^{99m}Tc-EC in the same time period. Planar images and autoradiograms confirmed that the tumors could be visualized clearly with ^{99m}Tc-EC-MN from 0.5 to 4 h. There was no significant difference of tumor-to-blood count ratios between ^{99m}Tc-EC-MN and [¹³¹I]IMISO at 2 and 4 h postinjection. From 0.5 to 4 h, both ^{99m}Tc-EC-MN and [¹³¹I]IMISO have higher tumor-to-muscle ratios compared to [¹⁸F]FMISO. It is feasible to use ^{99m}Tc-EC-MN to image tumor hypoxia.

IT 14344-48-0, L,L-Ethylenedicysteine
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (noninvasive assessment of tumor hypoxia with ^{99m}Tc-labeled metronidazole)

RN 14344-48-0 CAPLUS

CN L-Cysteine, N,N'-1,2-ethanediylbis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS

LS ANSWER 7 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1999-631503 CAPLUS
 DOCUMENT NUMBER: 131:348583
 TITLE: Synthesis of [^{99m}Tc]ethylenedicysteine-colchicine for evaluation of antiangiogenic effect
 AUTHOR(S): Zarenyrizi, Fereshteh; Yang, David J.; Oh, Chang-Sok; Ilgan, Seyfettin; Yu, Dong-Pang; Tansey, Wayne; Liu, Chun-Wei; Kim, E. Edmund; Podoloff, Donald A.
 CORPORATE SOURCE: Divisions of Diagnostic Imaging, University of Texas MD Anderson Cancer Center, Houston, TX, 77030, USA
 SOURCE: Anti-Cancer Drugs (1999), 10(7), 685-692
 CODEN: ANTDEV; ISSN: 0959-4973
 PUBLISHER: Lippincott Williams & Wilkins
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Angiogenesis is in part responsible for tumor growth and the development of metastasis. Radiolabeled angiogenesis inhibitors would be useful to assess tumor microvasculature d. Colchicine (COL), a potent antiangiogenic agent, is known to inhibit microtubule polymn. and cell arrest at metaphase. This study aimed to develop ^{99m}Tc-labeled COL (EC-COL) using ethylenedicycysteine (EC) as a chelator to assess tumor microvascular d. EC was conjugated to trimethylcolchicinic acid using N-hydroxysuccinimide and 1-ethyl-3-dimethylaminopropyl carbodiimide as coupling agents with a yield of 50-60%. In vivo stability was analyzed in rabbit serum at 0.5-4 h. Tissue distribution and planar imaging studies of [^{99m}Tc]EC-COL were evaluated in breast tumor-bearing rats at 0.5, 2 and 4 h. The data was compared to that using [^{99m}Tc]EC (control). The radiochem. yield of [^{99m}Tc]EC-COL was greater than 95%. [^{99m}Tc]EC-COL was stable in rabbit serum. In vivo biodistribution of [^{99m}Tc]EC-COL in breast tumor-bearing rats showed increased tumor-to-blood (0.52 +/- 0.12 to 0.72 +/- 0.07) and tumor-to-muscle (3.47 +/- 0.40 to 7.97 +/- 0.93) ratios as a function of time. Conversely, tumor-to-blood values showed a time-dependent decrease with [^{99m}Tc]EC over the same time period.

Planar images confirmed that the tumors could be visualized clearly with [^{99m}Tc]EC-COL from 0.5 to 4 h. [^{99m}Tc]EC-COL may be useful to assess antiangiogenic and therapeutic effects during chemotherapy.

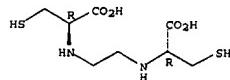
IT 14344-48-0P, L,L-Ethylenedicysteine

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (synthesis of [^{99m}Tc]ethylenedicysteine-colchicine for imaging tumor microvascular d. and assessing antiangiogenic effect)

RN 14344-48-0 CAPLUS

CN L-Cysteine, N,N'-1,2-ethanediylbis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LS ANSWER 7 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)

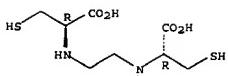
LS ANSWER 8 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1999:512218 CAPLUS
 DOCUMENT NUMBER: 131:286782
 TITLE: Synthesis and evaluation of β -homocysteine derivatives of $^{99m}\text{Tc-L,L-ECD}$ and $^{99m}\text{Tc-L,L-ECD}$
 AUTHOR(S): Mangera, K. O.; Verbruggen, A.
 CORPORATE SOURCE: Laboratory of Radiopharmaceutical Chemistry, K.U.
 Leuven, Louvain, B-3000, Belg.
 SOURCE: J. Labelled Compd. Radiopharm. (1999), 42(7), 683-699
 PUBLISHER: John Wiley & Sons Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Bis-amino bis-thiol tetra-ligands such as ethylene dicysteine (EC) and its di-Et ester (ECD) bind ^{99m}Tc efficiently at room temp. and neutral to alk. pH to form stable complexes. The use of bis-amino bis-thiol ligands as bifunctional chelating agents (BCAs) for labeling of bioactive compds. (peptides, diphosphonates, etc.) looks promising. To study the effect of extending the carboxylic side-group in $^{99m}\text{Tc-L,L-EC}$ and $^{99m}\text{Tc-L,L-ECD}$, the authors have synthesized ethylene bis-L- β -homocysteine (L,L-EHC) and its di-Et ester deriv. L,L-EhCD, incorporating a methylene group between each of the carboxyl groups and the N252 tetra-ligand core. The more distant carboxyl groups could offer reduced steric hindrance in the use of L,L-EHC and L,L-EhCD as BCAs. As for $^{99m}\text{Tc-L,L-ECD}$, $^{99m}\text{Tc-L,L-EhCD}$ is neutral on electrophoresis at pH 6.0.

In mice, brain uptake of $^{99m}\text{Tc-L,L-EhCD}$ is lower than the $^{99m}\text{Tc-L,L-ECD}$. Blood clearance of the two complexes is similar. The diacid $^{99m}\text{Tc-L,L-EC}$ migrates to the same extent as the corresponding $^{99m}\text{Tc-L,L-ECD}$ on electrophoresis at pH 3.2, 9.0 and 12, but it migrates 25% further at pH 6. Urine levels for $^{99m}\text{Tc-L,L-EHC}$ in mice are lower than those for $^{99m}\text{Tc-L,L-EC}$ (65% vs. 74% of I.D. at 10 min p.i. and 85% vs. 95% at 30 min p.i., resp.). The results show that the β -homocysteine derivs. retain the key characteristics of $^{99m}\text{Tc-L,L-EC}$ and $^{99m}\text{Tc-L,L-ECD}$, i.e. easy formation of stable complexes with ^{99m}Tc , a high urinary excretion for $^{99m}\text{Tc-L,L-EHC}$, and in the case of $^{99m}\text{Tc-L,L-EhCD}$ a neutral compd. with appreciable brain uptake. These properties indicate that L,L-EHC and L,L-EhCD merit further evaluation as BCAs with attractive conjugation properties.

IT 14344-48-0
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and evaluation of as radiopharmaceuticals)
 RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

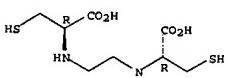
Absolute stereochemistry.

LS ANSWER 8 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)



IT 14344-48-0
 RL: RCT (Reactant)
 (reaction of in the synthesis and evaluation of β -homocysteine derivs. of $^{99m}\text{Tc-L,L-EC}$ and $^{99m}\text{Tc-L,L-ECD}$)
 RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

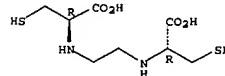


REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LS ANSWER 9 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 2000:159902 CAPLUS
 DOCUMENT NUMBER: 132:302450
 TITLE: Ethylene dicysteine (EC) and ethyl cysteinate dimer (ECD) complexes of Ga(III) and In(III)
 AUTHOR(S): Chattopadhyay, Sankha; Das, M. K.; Sarkar, B. R.; Ramamoorthy, N.
 CORPORATE SOURCE: Radiopharmaceuticals Laboratory of BRIT, Variable Energy Cyclotron Centre, Calcutta, 700 064, India
 SOURCE: Journal of Radioanalytical and Nuclear Chemistry (1999), 242(1), 29-32
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Ethylene dicysteine (EC) and Et cysteinate dimer (ECD) complexes of ^{67}Ga and ^{111}In were prepd. and the complexation yield and radiochem. purity estd. by paper chromatog., paper electrophoresis and solvent extrn. into CHCl_3 . $^{111}\text{In-EC}$ is anionic, whereas $^{111}\text{In-ECD}$ was neutral. EC complexes of ^{67}Ga and ^{111}In were stable up to 6 h and expectedly less lipophilic than ECD complexes. ECD complexes of ^{67}Ga and ^{111}In were unstable in aq. medium, but highly stable in CHCl_3 . The utility of the work for stabilization of products as org. ext. and the possible role and limitation for the development of new ^{68}Ga radiopharmaceuticals and of bifunctional chelating agent (BCA) for ^{111}In are discussed.

IT 14344-48-0
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn., radiochem. purity and chem. stability in org. medium)
 RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

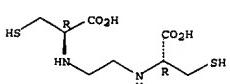
LS ANSWER 10 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1999:125562 CAPLUS
 DOCUMENT NUMBER: 130:334722
 TITLE: *99mTc-ethylenedicycysteine-folate: A new tumor imaging agent. Synthesis, labeling and evaluation in animals*
 AUTHOR(S): Ilgan, Seyfettin; Yang, David J.; Higuchi, Tetsuya; Zareneyrizi, Ferehetteh; Bayhan, Hikmet; Yu, Dongfang; Kim, E. Edmund; Podoloff, Donald A.
 CORPORATE SOURCE: Department of Nuclear Medicine, The University of Texas MD Anderson Cancer Center, Houston, TX, 77030, USA
 SOURCE: *Cancer Biother. Radiopharm.* (1998), 13(6), 427-435
 CODEN: CBRAFJ; ISSN: 1084-9785
 PUBLISHER: Mary Ann Liebert, Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB It is known that membrane folic acid receptors are responsible for cellular accumulation of folate and folate analogs such as methotrexate and overexpressed on various tumor cells. However, these receptors are highly restricted in normal differentiated tissues. Results of limited *in vitro* and *in vivo* animal studies suggest that folate receptors could be a potential target for tumor imaging. This study aimed to develop a *99mTc*-labeled folic acid using ethylenedicycysteine (EC) as a chelator and evaluate its labeling efficiency and potential use as a tumor seeking agent. Tissue distribution of *99mTc*-EC-folate was detd. in breast tumor-bearing rats at 20 min, 1, 2, and 4 h ($n=3$ /time interval, 370 KBq/rat, i.v.). Blocking study was employed to det. receptor-mediated process; *99mTc*-EC-folate was co-administrated with 50 and 150 μ Mol/kg of cold folic acid to tumor-bearing rats. Planar imaging and whole-body autoradiograms were performed. The data was compared to that using *99mTc*-EC (control). In animal studies, tumor/blood count d. ratios at 20 min-4 h increased from 0.81 \pm 0.09 to 1.23 \pm 0.13 with *99mTc*-EC-folate. Conversely, these values showed time-dependent decrease from 0.77 \pm 0.32 to 0.65 \pm 0.01 with *99mTc*-EC in the same time period. Tumor/muscle and tumor/blood count d. ratios significantly decreased with folic acid co-administrations. Planar images and autoradiograms confirmed that the tumors could be visualized clearly with *99mTc*-EC-folate.
 IT 14344-48-0, L,L-Ethylenedicycysteine
 RL: RCT (Reactant)
 (reactant; synthesis of, biodistribution of and tumor imaging with *99mTc*-ethylenedicycysteine-folate)
 RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

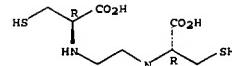
LS ANSWER 11 OF 15 USPATFULL
 ACCESSION NUMBER: 95:62456 USPATFULL
 TITLE: *Ester-substituted diaminedithiols and radiolabeled complexes thereof*
 INVENTOR(S): Bergstein, Paul L., Norwood, MA, United States
 Cheesman, Edward H., Townsend, MA, United States
 Watson, Alan D., Andover, MA, United States
 PATENT ASSIGNEE(S): The Du Pont Merck Pharmaceutical Company, Wilmington, DE, United States (U.S. corporation)

NUMBER	KIND	DATE
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US 5431900	19950711	
US 1993-139894	19931020 (8)	
RELATED APPN. INFO.: Division of Ser. No. US 1988-143561, filed on 26 Jan 1988, now patented. Pat. No. US 5279811 which is a continuation-in-part of Ser. No. US 1987-16982, filed on 18 Feb 1987, now abandoned		
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Wu, Sean M.	
LEGAL REPRESENTATIVE:	Boudreux, Gerald J.	
NUMBER OF CLAIMS:	25	
EXEMPLARY CLAIM:	1	
LINE COUNT:	833	
CAS INDEXING AVAILABLE FOR THIS PATENT.		
AB	Radiopharmaceuticals consisting essentially of a lipophilic, charge neutral radionuclide complex of a diaminedithiol ligand having 1-4 ester groups of the formula --A--COOR where A is a straight or branched chain alkylene of 0-10 carbon atoms and R is an alkyl group of 1-10 carbon atoms are useful in radiodiagnostics brain perfusion in primates. Ester-substituted diaminedithiols in sterile, pharmaceutically acceptable form, and kits of the diaminedithiols and sterile, non-pyrogenic reducing agents for reducing preselected radionuclides are also provided. Technetium-99m is a preferred radionuclide.	
IT	14344-48-0P (prepn. and reaction of, in prepn. of ester-substituted diaminedithiol for radiopharmaceutical for brain imaging)	
RN	14344-48-0 USPATFULL	
CN	L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)	

Absolute stereochemistry.



LS ANSWER 10 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)

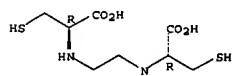


REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

FORMAT

LS ANSWER 12 OF 15 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
 ACCESSION NUMBER: 1995:485112 CAPLUS
 DOCUMENT NUMBER: 123:144521
 TITLE: *N,N'-Ethylene-di-L-cysteine (EC) complexes of Ga(III) and In(III): molecular modeling, thermodynamic stability, and in vivo studies*
 AUTHOR(S): Anderson, Carolyn J.; John, Christy S.; Li, Yuejin; Hancock, Robert D.; McCarthy, Timothy J.; Martell, Arthur E.; Welch, Michael J.
 CORPORATE SOURCE: School of Medicine, Washington University, St Louis, MO, 63110, USA
 SOURCE: *Nucl. Med. Biol.* (1995), 22(2), 165-73
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB *L,L-Ethylenedicycysteine (EC)* is a $\text{N}2\text{S}2$ ligand that also contains two carboxylic acid moieties for complexation of Ga(III) and In(III) in a hexacoordinate environment. The stability consts. of Ga- and In-EC have been detd. by potentiometric methods. The stability of In-EC was found to be greater than that of Ga-EC, with stability consts. ($\log K'$) of 33.0 and 31.5, resp. A mol. mechanics evaluation of the Ga- and In-EC complexes support the thermodyn. results. ^{67}Ga - and ^{111}In -labeled complexes of EC were prep'd. and analyzed by thin layer chromatog. and electrophoresis. Both complexes were evaluated in biodistribution studies in normal Sprague-Dawley rats. ^{111}In -EC cleared rapidly through the hepatobiliary system, whereas ^{67}Ga -EC remained in the liver at 1 h post-injection. Although ^{67}Ga -EC was retained in the liver, suggesting instability of the complex in vivo, ^{67}Ga -EC was stable in rat plasma in vivo at 2 h post-injection. Because of the high thermodyn. and in vivo stability of In-EC, derivs. of EC may have applications as bifunctional chelators for ^{111}In -labeled proteins and peptides. More lipophilic analogs of ^{68}Ga -EC may also have potential as myocardial PET imaging agents.
 IT 14344-48-0, N,N'-Ethylene-di-L-cysteine
 RL: PRP (Properties)
 (MO, thermodyn. stability, and in vivo studies of ethylenedicycysteine complexes of gallium and indium)
 RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

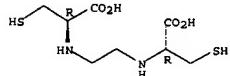
Absolute stereochemistry.



LS ANSWER 13 OF 15 USPATFULL
 ACCESSION NUMBER: 94:5666 USPATFULL
 TITLE: Ester-substituted diaminedithiols and radiolabeled complexes thereof
 INVENTOR(S): Bergstein, Paul L., Norwood, MA, United States
 Cheesman, Edward H., Townsend, MA, United States
 Watson, Alan D., Andover, MA, United States
 PATENT ASSIGNEE(S): The Du Pont Merck Pharmaceutical Company, Wilmington, DE, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5279811	19940118	
APPLICATION INFO.:	US 1988-143561	19880126 (7)	
DISCLAIMER DATE:	20080318		
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1987-16982, filed on 18 Feb 1987, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Stoll, Robert L.		
ASSISTANT EXAMINER:	Covert, John M.		
LEGAL REPRESENTATIVE:	Boudreault, Gerald J.		
NUMBER OF CLAIMS:	34		
EXEMPLARY CLAIM:	1		
LINE COUNT:	884		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			
AB	Radiopharmaceuticals consisting essentially of a lipophilic, charge neutral radionuclide complex of a diaminedithiol ligand having 1-4 ester groups of the formula --A--COOR where A is a straight or branched chain alkylene of 0-10 carbon atoms and R is an alkyl group of 1-10 carbon atoms are useful in radiobiolography brain perfusion in primates. Ester-substituted diaminedithiols in sterile, pharmaceutically acceptable form, and kits of the diaminedithiols and sterile, non-pyrogenic reducing agents for reducing preselected radionuclides are also provided. Technetium-99m is a preferred radionuclide.		
IT 14344-48-0P	(prepn. and esterification of)		
RN 14344-48-0	USPATFULL		
CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)			

Absolute stereochemistry.



LS ANSWER 15 OF 15 USPATFULL
 ACCESSION NUMBER: 90:38223 USPATFULL
 TITLE: Technetium-99m complex for examining the renal function
 INVENTOR(S): Nooco, Dennis L., Florissant, MO, United States
 Verbruggen, Alfonso M., Leuven, Belgium
 PATENT ASSIGNEE(S): Mallinckrodt, Inc., St. Louis County, MO, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4925650	19900515	
APPLICATION INFO.:	US 1988-272177	19881116 (7)	
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Maples, John S.		
LEGAL REPRESENTATIVE:	Hay, David A., Klostermann, Roy J.		
NUMBER OF CLAIMS:	15		
EXEMPLARY CLAIM:	1		
LINE COUNT:	575		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			
AB	The invention relates to a technetium-99m complex of the general formula ##STR1## wherein Z is a sulphur atom or an amino group of the general formula R.sub.17 -N--(R.sub.18).sub.K, in which K is 0 or 1 and R.sub.17 and R.sub.18 have the same meanings as the symbols R.sub.1- R.sub.16;		

each of the symbols R.sub.1- R.sub.16 is individually selected from the group consisting of hydrogen, straight or branched, unsubstituted or substituted alkyl having 1-4 carbon atoms, and ACOOH, wherein A is a straight or branched, unsubstituted or substituted alkyl group having 0-4 carbon atoms;

and R.sub.5 together with R.sub.6 or R.sub.9 together with R.sub.10 additionally may form an oxygen atom;

Tc represents technetium-99m;

t is 0 or 1; and

n is 0 or 1;

with the provisos that

(a) if R.sub.15, R.sub.16, R.sub.17 and/or R.sub.18 are/is ACOOH, A is

straight or branched, unsubstituted or substituted alkyl group having 1-4 carbon atoms;

(b) at least one of the symbols R.sub.1- R.sub.18 is ACOOH; and

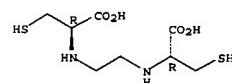
(c) if t is 1, at least two of the symbols R.sub.1- R.sub.18 are ACOOH;

or a pharmaceutically acceptable salt of this compound.

The invention further relates to a radiopharmaceutical composition comprising said complex, to the use of this composition for examining the renal function, and to a kit for preparing such a composition.

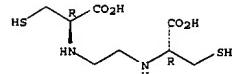
IT 14344-48-ODP, technetium-99 complexes

LS ANSWER 14 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1994:239232 CAPLUS
 DOCUMENT NUMBER: 120:239232
 TITLE:
 Technetium-99m labeling on monoclonal antibodies via N,N'-ethylene-bis-L-cysteine
 AUTHOR(S): Qu, Tong; Wu, Yonghui; Wang, Xiangyun; Liu, Yuanfang;
 Ye, Yunhua; Wu, Chuanchu
 CORPORATE SOURCE: Dep. Tech. Phys., Peking Univ., Beijing, Peop. Rep. China
 SOURCE: Radiochim. Acta (1993), 63, 209-12
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A new developed excellent kidney imaging agent, N,N'-ethylene-bis-L-cysteine (EC) has been used as a bifunctional chelating agent (BPCA) for Tc-99m labeling of monoclonal antibodies (MoAb). A new conjugation agent N-hydroxyl-1,4-epoxycyclohex-5-ene-2,3-di-carboxylic imide (HONC) and a water-sol. dehydrating agent 1-ethyl-3-(3-dimethylaminopropyl)carbo-diimide (EDC) were used to accomplish the conjugation of EC with antibodies. A conjugation yield of 30-40% was obtained. The exptl. conditions were optimized for the best conjugation performance. Tc-99m labeling was then completed after conjugation. More than 80% of the immunoreactivity was retained by monoclonal antibodies conjugated with EC. More than 70% of the radioactivity was retained in the labeled complex Tc-99m-EC-Ala after incubation in fresh EC and cysteine soins. for 16-20 h. The biodistributions of labeled antibody in mice were also detd.
 IT 14344-48-ODP, technetium-99-monoclonal antibody complexes
 RL: BOC (Biological occurrence); SPN (Synthetic preparation); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
 (prepn. and biodistribution of, imaging in relation to)
 RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)
 Absolute stereochemistry.



LS ANSWER 15 OF 15 USPATFULL (Continued)
 (prepn. and biodistribution of)
 RN 14344-48-0 USPATFULL
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



09/599,152

Page 11

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=> d his  
  
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FILE 'REGISTRY' ENTERED AT 15:36:31 ON 19 APR 2002  
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L1      1 S E3  
  
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19 APR 2002  
L2      49 S L1  
L3      45 DUP REM L2 (4 DUPLICATES REMOVED)  
L4      16 S L2 AND (ANTI(W)CANCER? OR DNA OR ANTI(W)METABOLIT? OR TUMOR?  
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L6      28 L2 AND (IMAG?)  
  
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PROCESSING COMPLETED FOR L7  
L8      15 DUP REM L7 (0 DUPLICATES REMOVED)  
  
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L8 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:931407 CAPLUS

DOCUMENT NUMBER: 36:196262

TITLE: Development of a Conjugate of 99m Tc-EC with Aminomethylenediphosphonate in the Search for a Bone Tracer with Fast Clearance from Soft Tissue

AUTHOR(S): Verbeke, Kristin; Rozenski, Jef; Cleynhens, Bernard; Vanbiljoen, Hubert; de Groot, Tjibbe; Weyns, Nancy;

CORPORATE SOURCE: Laboratory of Radiopharmaceutical Chemistry, University Hospital Gasthuisberg, Louvain, B-3000, Belg.

SOURCE: Bioconjugate Chemistry (2002), 13(1), 16-22

CODEN: BCCHE8; ISSN: 1043-1802

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB For the currently used 99m Tc-labeled diphosphonates such as 99m Tc-MDP and 99m Tc-HDP, the required interval of 2.5 to 3 h between injection and the scintigraphic bone imaging is an inconvenience. The present study was set up in an attempt to develop a technetium-99m-labeled diphosphonate with efficient bone uptake and more rapid clearance from blood and soft tissue by renal excretion so that it would be possible to start imaging as early as 1 h after injection. A conjugate of the new renal tracer agent 99m Tc-ethylene dicysteine (99m Tc-L,L-EC), covalently bound via one of its carboxylates with aminomethylenediphosphonic acid (AMDP), was synthesized in seven steps. EC-AMDP could be labeled easily and efficiently with 99m Tc at pH 5.0-6.0 at room temp. Anal. using ion pair reversed phase high performance liq. chromatog. showed the formation of a mixt. of two main compds. with reproducible relative ratios, which were stable as a function

of time. In a baboon, the scintigraphic images obtained with the new agent showed good quality bone scans, with clear visualization of the skeleton and low soft tissue activity at resp. 1 and 2 h after injection.

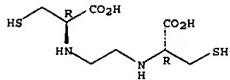
IT 14344-48-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of ethylene dicysteine diphosphonate complex of 99m Tc for bone scintigraphy)

RN 14344-48-0 CAPLUS

CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L8 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:255982 CAPLUS

DOCUMENT NUMBER: 133:219567

TITLE: ($[186/188]$ Re) rhenium-ethylene dicysteine (Re-EC): preparation and evaluation for possible use in endovascular brachytherapy

AUTHOR(S): Das, T.; Banerjee, S.; Samuel, G.; Kothari, K.; Unni, P. R.; Sarma, H. D.; Ramamoorthy, N.; Pillai, M. R.

A.

CORPORATE SOURCE: Radiopharmaceuticals Division Bhabha Atomic Research Centre, Mumbai, India

SOURCE: Nuclear Medicine and Biology (2000), 27(2), 189-197

CODEN: NMNBED; ISSN: 0969-8051

PUBLISHER: Elsevier Science Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB 186 Re-04-, 188 Re-MAG3, and 188 Re-DTPA are currently under investigation as radiation sources in liq.-filled balloons for prevention of restenosis following coronary angioplasty. Because 99m Tc-labeled ethylene dicysteine (EC) is a well-established agent for renal tubular function imaging, the use of $[188]$ Re EC as a potential agent for prevention of restenosis after angioplasty is worth evaluation. In this article, the prepn. and pharmacol. behavior of $[188/186]$ Re complex of EC are reported. The yield of the Re complex was optimized by varying the parameters of complexation. The complex prepd. under the optimized conditions was found to be stable over a period of 7 days when stored at pH 2 and at 4.^{degree}C. The pharmacol. behavior of $[188/186]$ Re-EC confirms its similarity to 188 Re-MAG3 and its

superiority

over 188 Re-04- for use in endovascular brachytherapy.

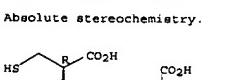
IT 14344-48-0, L,L-Ethylene dicysteine

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
($[186/188]$ Re) rhenium-ethylene dicysteine: prepn. and evaluation for possible use in endovascular brachytherapy)

RN 14344-48-0 CAPLUS

CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L8 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)

DOCUMENT NUMBER: 36:196262

TITLE: Study of various esters of ethyl cysteine acid dimer as brain perfusion imaging agents and formulation into single vial kit for labeling with 99m Tc

AUTHOR(S): Afghan, A.; Jehangir, M.; Amin, W.; Mujahid, A. CORPORATE SOURCE: RadioIsotope Production Group, Nuclear Chemistry Division, Pakistan Institute of Science and Technology, Nilore, Pak.

SOURCE: Nuclear Science Journal (2000), 37(3), 188-196

CODEN: HTKHB8; ISSN: 0929-5647

PUBLISHER: Nuclear Science Journal

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two analogs of Et cysteinate dimer (ECD) namely Pr cysteinate dimer (PCD) and Bu cysteinate dimer (BCD) have been synthesized and characterized.

The optimization of parameters required to produce "single vial kit" of these analogs to obtain the stable complexes by labeling with 99m Tc have also been carried out. Different anal. techniques were used for the quality control of 99m Tc-PCD and 99m Tc-BCD complexes prep'd. from the freeze dried PCD and BCD kits resp. The difference in procedures of synthesis, formulation of kits and their quality control were compared with ECD. The KD of ECD and its analogs was also studied.

Biodistribution studies in mice, sacrificed 1.0 min after injection showed

brain uptake of 99m Tc-ECD as 5.0 .+-. 0.5%, 99m Tc-PCD as 4.3 .+-. 0.3%

and 99m Tc-BCD as 1.6 .+-. 0.7%. These complexes were also studied in monkeys prior to clin. evaluations in humans. The pharmacodynamic study of 99m Tc-ECD showed that time of max. uptake in the brain was between 30 s. to 1 m. and the retention of activity was maintained for 3 h after injection. 99m Tc-PCD showed that the time of its max. uptake in the

brain was 2 m and the retention of the activity was maintained even 2.5 h post injection which was sufficient time to perform SPET studies as it showed high brain/blood contrast. On the other hand 99m Tc-BCD did not give favorable results of biodistribution as a brain perfusion imaging agent in the rhesus monkey.

IT 14344-48-0, L-Cysteine, N,N'-1,2-ethanediylibis-

RL: RCT (Reactant); RACT (Reactant or reagent)
(cysteinate dimer analogs effects as brain perfusion imaging agents and formulation into single vial kit for labeling with 99m Tc)

RN 14344-48-0 CAPLUS

CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L8 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)

L8 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1999:733055 CAPLUS
 DOCUMENT NUMBER: 131:345771
 TITLE: Preparation of metal chelates as pharmaceutical imaging agents
 INVENTOR(S): Marzilli, Luigi G.; Lipowska, Małgorzata; Hansen, Lori; Taylor, Andrew Jr.
 PATENT ASSIGNEE(S): Emory University, USA
 SOURCE: U.S., 32 pp., Cont.-in-part of U.S. Ser. No. 643,413, abandoned.
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5986074	A	19991116	US 1997-993219	19971218
US 5955053	A	19990921	US 1996-643413	19960506

PRIORITY APPLN. INFO.: MARPAT 131:345771

OTHER SOURCE(S): AB The present invention relates to novel metal chelates, exemplified as technetium-99m or rhenium chelates, and to the process of prep. such metal chelates from corresponding ligands. These ligands and their corresponding metal chelates were synthesized to have a cysteinylethylene (EC) structure, a monothiourea (MTU) structure, or a dithiourea (DTU) structure. Thus, 99mTcO(CEMA) (H3CEMA - HSCH2CH(COOH)NHCH2CH(NHC(O)CH2CH2SH)2Ph), was prep. and biodistribution studied for four isomeric forms of the complex (syn- and anti-, D and L). The present invention further relates to a pharmaceutical compn. comprising a metal chelate, for example, a 99mTc-chelate, to the use of the compn. for renal imaging and examn. of renal function, and to a kit for prep. such a compn. prior to use.

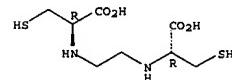
IT 14344-48-0, L,L-Ethylenedicysteine

RL: RCT (Reactant)
(reactant for prep. of 99mTc chelate as potential pharmaceutical imaging agent)

RN 14344-48-0 CAPLUS

CN L-Cysteine, N,N'-1,2-ethanediylbis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

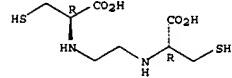


REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L8 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)

L8 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1996:472510 CAPLUS
 DOCUMENT NUMBER: 125:136612
 TITLE: Indium(III) and gallium(III) complexes of bis(aminoethanethiol) ligands with different denticities: Stabilities, molecular modeling, and in vivo behavior. [Erratum to document cited in CA124:111212]
 AUTHOR(S): Sun, Yizhen; Anderson, Carolyn J.; Pajieau, Tammy S.; Reichert, David E.; Hancock, Robert D.; Motekaitis, Ramunas J.; Martelli, Arthur E.; Welch, Michael J.
 CORPORATE SOURCE: Dep. Chem., Texas A and M Univ., College Station, TX, 77843-3255, USA
 SOURCE: J. Med. Chem. (1996), 39(12), 2434
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The errors were not reflected in the abstr. or the index entries.
 IT 14344-48-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (indium(III) and gallium(III) complexes of bis(aminoethanethiol) ligands with different denticities: prep., stabilities, mol. modeling, and in vivo behavior for diagnostic imaging (Erratum))
 RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethanediylbis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



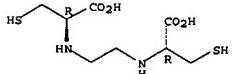
L8 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1996:6882 CAPLUS
 DOCUMENT NUMBER: 124:111212
 TITLE: Indium(III) and Gallium(III) Complexes of Bis(aminooethanethiol) Ligands with Different Denticities: Stabilities, Molecular Modeling, and in Vivo Behavior
 AUTHOR(S): Sun, Yizhen; Anderson, Carolyn J.; Pajeau, Tammy S.; Reichert, David E.; Hancock, Robert D.; Motekaitis, Ramunas J.; Martell, Arthur E.; Welch, Michael J.
 CORPORATE SOURCE: Department of Chemistry, Texas A and M University, College Station, TX, 77843-3255, USA
 SOURCE: J. Med. Chem. (1996), 39(2), 458-70
 CODEN: JMCMAR; ISSN: 0022-2623
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Complexes of Ga(III) and In(III) radionuclides are widely used in diagnostic imaging. In this study, the following ligands of denticities 4, 5, and 6, resp., were prep'd.: N,N'-bis(2,2-dimethyl-2-mercaptoproethyl)ethylenediamine (4SS), 1-carboxy-N,N'-bis(2,2-dimethyl-2-mercaptoproethyl)ethylenediamine (5SS), and N,N'-bis(2,2-dimethyl-2-mercaptoproethyl)ethylenediamine-N,N'-diacetic acid (6SS). Syntheses of the two new ligands, 5SS and 6SS, are described. Equil. consts. for their In(III) and Ga(III) complexes were detd. by both direct and ligand-competitive potentiometric methods. The formation const. ($K_{f,ML}$) of In(III)-6SS in 0.100 M KNO₃ at 25.0° is 1039.8, and its pM at physiol. pH (7.4 with 100% excess of the ligand) is 30.9. These values are higher than those of any other previous reported ligand for In(III). The stability consts. of the complexes of 4SS, 5SS, and 6SS, and the analogous ligand EDDASS, N,N'-bis(2-mercaptoproethyl)ethylenediamine-N,N'-diacetic acid, which does not contain gem-di-Me groups, are compared. The thermodyn. stabilities of the In(III) complexes of all ligands except 6SS are greater than those of the corresponding Ga(III) complexes. The presence of the geminal di-Me group in 6SS increased the stability of the Ga(III) and In(III) complexes over those of EDDASS. The effects of the gem-di-Me groups on complex stabilities are explained by mol. modeling. The serum stabilities and biodistributions out to 1 h postinjection of 67/68Ga and 111In chelates of 4SS, 5SS, and 6SS were measured and compared with those of EDDASS. The 67/68Ga- and 111In-ligand complexes with more donor atoms showed more stable in serum, both in vitro and in vivo. The biodistributions of the 67/68Ga- and 111In-ligand complexes exhibited distinct trends. None of the 67/68Ga- and 111In-chelates demonstrated significant heart or brain uptake. The majority of uptake for all compds. was in the liver and kidney. The degree of clearance through the liver corresponded to the thermodyn. stability of the complex. Correlations between in vivo behavior, mol. modeling data, and thermodyn. stability of the complexes are discussed.

IT 14344-48-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (indium(III) and gallium(III) complexes of bis(aminooethanethiol) ligands with different denticities: prepn., stabilities, mol. modeling,

L8 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1995:860007 CAPLUS
 DOCUMENT NUMBER: 124:4094
 TITLE: Kinetic study on ligand exchange reaction between EC and 99mTc-GH
 AUTHOR(S): Wu, Chunying; Luo, Sheng; Fang, Ping; Huang, Heyun; Xie, Minhao; Meng, Hong
 CORPORATE SOURCE: State Key Laboratory Nuclear Medicine, Jiangsu Institute of Nuclear Medicine, Wuxi, 214063, Peop. Rep. China
 SOURCE: Heijishu (1995), 18(5), 293-6
 CODEN: NUTEDL; ISSN: 0253-3219
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 AB The ligand exchange reaction between EC (N,N'-ethylene-di(L-cysteine)) and 99mTc-GH and its influence factors such as concns. of EC and pH were described in this paper. The concn. of EC has no influence on the exchange reaction rate const., while pH is the most important influence factor. The rate consts. of ligand exchange reaction at different pH values were detd. The results showed that to make the labeling yield of the kidney contrast agent 99mTc-EC higher than 90%, pH of the reaction must be higher than 8.

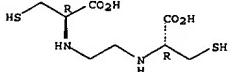
IT 14344-48-0D, N,N'-Ethylene-di(L-cysteine)
 RL: RCT (Reactant)
 (kinetic study on ligand exchange reaction between EC and 99mTc-GH)
 RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



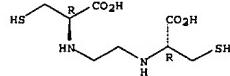
IT 14344-48-0DP, N,N'-Ethylene-di(L-cysteine), technetium complex
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (kinetic study on ligand exchange reaction between EC and 99mTc-GH)
 RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L8 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)
 and in vivo behavior for diagnostic imaging)
 RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

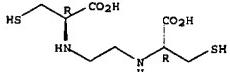
Absolute stereochemistry.



L8 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1995:765168 CAPLUS
 DOCUMENT NUMBER: 123:221923
 TITLE: Tetrahydroaminoacridine modulates technetium-99m labeled ethylene dicysteinate retention in Alzheimer's disease measured with single photon emission computed tomography imaging
 AUTHOR(S): Riekkinen, Paavo Jr.; Kuikka, J.; Soininen, H.; Helkala, E-L.; Hallikainen, M.; Riekkinen, Paavo
 CORPORATE SOURCE: Department of Neurology, University and University Hospital of Kuopio, CANTHIA, POB 1627, Kuopio, 70211, Finland
 SOURCE: Neurosci. Lett. (1995), 195(1), 53-6
 CODEN: NELEDS; ISSN: 0304-3940
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The present study investigated if acute treatment with tetrahydroaminoacridine (THA) (25 or 75 mg, p.o.) affects technetium-99m labeled ethylene dicysteinate (ECD) retention abnormalities in patients with mild to moderate Alzheimer's disease (AD; mean age 69 yr). THA (75 mg) increased temporal, prefrontal and occipital ECD retention (normalized to cerebellum) in mildly demented AD patients, but 25 mg of THA had no effect on ECD retention. After 75 mg THA, prefrontal and temporal ECD retention correlated with improved executive and memory functioning, resp. THA (25 or 75 mg) had no measurable effect on ECD retention of moderately demented patients.

IT 14344-48-0D, labeled with technetium-99m
 RL: ANT (Analyte); BPR (Biological process); ANST (Analytical study); BIOL (Biological study); PROC (Process)
 (tetrahydroaminoacridine modulates technetium-99m labeled ethylene dicysteinate retention in Alzheimer's disease measured with SPECT)
 RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethanediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



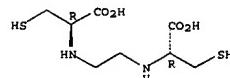
L8 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1004-264828 CAPLUS
 DOCUMENT NUMBER: 120:264828
 TITLE: Ester-substituted diaminedithiol and radiolabeled
 Complexed thereof for radio-imaging brain
 INVENTOR(S): Bergstein, Paul L.; Cheesman, Edward H.; Watson, Alan
 D.
 PATENT ASSIGNEE(S): Du Pont Merck Pharm. Co., USA
 SOURCE: U.S., 13 pp. Cont.-in-part of U.S. Ser. No. 16,982,
 abandoned.
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5279811	A	19940118	US 1988-143561	19880126
AU 8811748	A1	19880901	AU 1988-11748	19880216
AU 614276	B2	19910829		
DK 8800816	A	19880819	DK 1988-816	19880217
EP 279417	A2	19880824	EP 1988-102252	19880217
EP 279417	A	19890726		
EP 279417	B1	19920520		
	KT AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE			
AT 76401	E	19920615	AT 1988-102252	19880217
ES 2042609	T3	19931216	ES 1988-102252	19880217
JP 63295549	A2	19881201	JP 1988-34137	19880218
ZA 8801136	A	19891025	ZA 1988-1136	19880218
CA 1271195	A1	19900703	CA 1988-559230	19880218
US 5431900	A	19950711	US 1993-139894	19931020
PRIORITY APPLN. INFO.:		US 1987-16982		19870218
		US 1988-143561		19880126
		EP 1988-102252		19880217

OTHER SOURCE(S): MARPAT 120:264828
 AB Radiopharmaceuticals consisting essentially of a lipophilic, charge neutral radionuclide complex of a diaminedithiol ligand having 1-4 ester groups of the -A-COO_R (A = C₁-10 alkyne, R = C₁-10 alkyl) are prepd. for radioimaging brain perfusion in primates. Technetium-99m is a preferred radionuclide. Thus N,N'-1,2-ethylenediylibis-L-cysteine (I) (prepn. is given) in EtOH was refluxed with HCl gas for 2.5 h, then slurry was cooled, filtered and purified to obtain I.2Et ester 2HCl (II). II and SnCl₂ and 99mTcO₄ were mixed to obtain 99mTc diaminedithiol complex of the invention. Different 99mTc diaminedithiol complexes were used for evaluation of regional cerebral blood flow by performing brain imaging studies in monkeys.
 IT 14344-48-0
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and esterification of)
 RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethylenediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L8 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)

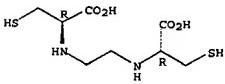


L8 ANSWER 10 OF 15 USPATFULL
 ACCESSION NUMBER: 93:18562 USPATFULL
 TITLE: Silver halide elements with improved speed and low fog
 INVENTOR(S): Chen, Dominic M.; Wilmington, DE, United States
 LeStrange, Raymond J.; Hendersonville, NC, United States
 STATES
 PATENT ASSIGNEE(S): E. I. du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)

NUMBER	KIND	DATE
US 5192655	19930309	
US 1991-726331	19910705 (7)	

PATENT INFORMATION:
 APPLICATION INFO.:
 DOCUMENT TYPE:
 FILE SEGMENT:
 PRIMARY EXAMINER:
 ASSISTANT EXAMINER:
 NUMBER OF CLAIMS:
 EXEMPLARY CLAIM:
 LINE COUNT: 227
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 AB Substituted diaminedithio-containing compounds useful for improving the speed of a silver halide emulsion are described. These compounds can be added in small amounts to the emulsion preferably after the emulsion has been chemically sensitized and just prior to coating. Fog levels are greatly affected which is surprising since conventional sensitizers generally do increase the fog level.
 IT 14344-48-0
 (photog. sensitizer)
 RN 14344-48-0 USPATFULL
 CN L-Cysteine, N,N'-1,2-ethylenediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L8 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1992:403351 CAPLUS
 DOCUMENT NUMBER: 117:351
 TITLE: Technetium-99m-L,L-ethylenediylicysteine: a renal imaging agent. I. Labeling and evaluation in animals
 AUTHOR(S): Verbruggen, Alfons M.; Nosco, Dennis L.; Van Nerom, Chris G.; Bornmans, Guy M.; Adriaens, Paul J.; De Roo, Michel J.

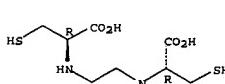
CORPORATE SOURCE: Lab. Radiopharm. Chem., KU Leuven, Belg.
 SOURCE: J. Nucl. Med. (1992), 33(4), 551-7
 CODEN: JNMEAQ; ISSN: 0161-5505

DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB L,L-Ethylenediylicysteine (L,L-EC) can be labeled efficiently with 99mTc at pH 12 to obtain a highly pure and very stable tracer agent (99mTc-L,L-EC). The biol. behavior of 99mTc-L,L-EC was studied in mice and a baboon. In mice, 99mTc-L,L-EC demonstrated a more rapid urinary excretion and less retention in the kidneys, the liver, the intestines, and the blood than did 99mTc-MAG3 at 10 and 60 min p.i. Urinary excretion decreased in probenecid pretreated mice, which indicates active tubular transport. In the baboon, the renograms for 99mTc-MAG3 and 99mTc-L,L-EC were comparable. Plasma-protein binding of 99mTc-L,L-EC was lower than that of 99mTc-MAG3 while its distribution vol. and 1-h plasma clearance were clearly higher. The promising results of the animal expts. suggest that 99mTc-L,L-ethylenediylicysteine may be a useful alternative to 99mTc-MAG3 for renal function studies in humans.

IT 14344-48-0
 RL: BIOL (Biological study)
 (labeling of, with technetium-99m, renal imaging in relation to)

RN 14344-48-0 CAPLUS
 CN L-Cysteine, N,N'-1,2-ethylenediylibis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

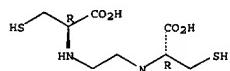


L8 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1993:55225 CAPLUS
DOCUMENT NUMBER: 118:55225

TITLE: A new renal function imaging agent
Technetium-99m-EC
AUTHOR(S): Zhang, Lina; Chen, Dazhou; Hong, Tao; Zhang, Zheng; Liu, Boli
CORPORATE SOURCE: Natl. Res. Cent., CRM's, Beijing, Peop. Rep. China
SOURCE: Tongwei (1991), 4(4), 212-16
CODEN: TONGEM; ISSN: 1000-7512
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB EC (N,N'-ethylene-di-L-cysteine, I) was synthesized by a 2-step reaction and labeled with $^{99m}\text{TcO}_4^-$. The effects of pH and various quantities of SnCl_2 and EC on the labeling yield were studied. The biodistribution in mice was measured.
IT 14344-48-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and technetium-99m labeling of)
RN 14344-48-0 CAPLUS
CN L-Cysteine, N,N'-1,2-ethanediylbis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L8 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:511706 CAPLUS
DOCUMENT NUMBER: 113:111706

TITLE: Technetium-99m complex for examining renal function
INVENTOR(S): Norco, Dennis L.; Verbruggen, Alfons M.
PATENT ASSIGNEE(S): Mallinckrodt, Inc., USA
SOURCE: U.S. 8 pp.
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4925650	A	19900515	US 1988-272177	19881116
IL 92211	A1	19950124	IL 1989-92211	19891103
IL 107560	A1	19961114	IL 1989-107560	19891103
CA 2002850	AA	19900516	CA 1989-2002850	19891114
WO 198905733	A1	19900531	WO 1989-US5132	19891116

W: AU, JP	RW: AT, BE, CH, DE, ES, PR, GB, IT, LU, NL, SE
AU 8946489	A1 19900612
AU 629880	B2 19921015
EP 444130	A1 19910904
EP 444130	B1 19980610
R: AT, BE, CH, DE, ES, PR, GB, IT, LI, LU, NL, SE	EP 1990-900458 19891116
JP 04505152	T2 19920910
JP 167188	B2 20010129
JP 167188	E 19980615
	AT 1990-900458 19891116
	US 1988-272177 A 19881116
	IL 1989-92211 A3 19891103
	WO 1989-US5132 W 19891116

PRIORITY APPLN. INFO.: MARPAT 113:111706

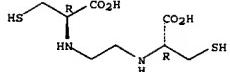
OTHER SOURCE(S): AB 99mTc complexes I [Z = S, R17NR18K; R1-18 = H, (un)substituted Cl-4 alkyl, AC02H; A = (un)substituted CO-4 alkyl; R5 and R6 or R9 and R10 = O; Tc = 99mTc; k, t, n = 0, 1; with provisions] or pharmaceutically acceptable salts are used in radiopharmaceutical compds. for examg. renal function. [L,L]-N,N'-Bis(1-carboxy-2-mercaptoproethyl)ethylenediamine was reacted with Na [99mTc]-pertechnetate in the presence of SnCl_2 . The 99mTc diaminodithiol complex was administered i.v. in humans at 0.5 mci and the radioactivity at the kidneys was recorded by a gamma camera equipped with a high-sensitivity collimator. The max. renal activity was achieved

after 2.5 min. After 40 min, 2.9% of the injected dose had accumulated in the liver compared to 4.0% accumulation of 99mTc-mercaptoacetyltriglycine. The renograms of these 2 compds. were approx. identical.

IT 14344-48-0P, technetium-99 complexes
RL: BOC (Biological occurrence); SPN (Synthetic preparation); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(prepn. and biodistribution of)
RN 14344-48-0 CAPLUS
CN L-Cysteine, N,N'-1,2-ethanediylbis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L8 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)

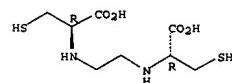


L8 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1991:499052 CAPLUS
DOCUMENT NUMBER: 115:99052
TITLE: Development of 99mTc-ECD as a new brain imaging agent I. Synthesis and labeling
AUTHOR(S): Zhang, Xiaoxiang; Liu, Boli; Jin, Yutai; Kung, Hank F.
CORPORATE SOURCE: Dep. Chem., Beijing Norm. Univ., Beijing, Peop. Rep. China
SOURCE: Tongwei (1990), 3(2), 73-8
CODEN: TONGEM; ISSN: 1000-7512
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

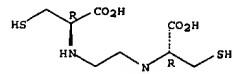
AB ECD (Et Cysteinate Dimer) was synthesized by a 2-step reaction. ECD was labeled by the ligand exchange reaction between $^{99m}\text{Tc}-\text{GH}$ (glucuheptonate) and ECD. The effect of temp., pH value, and various quantities of $\text{Ca}-\text{GH}$ and SnCl_2 on the labeling percentage was studied. The effect of pH value is very important.
IT 14344-48-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and technetium-99m labeling of)
RN 14344-48-0 CAPLUS
CN L-Cysteine, N,N'-1,2-ethanediylbis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 14344-48-0P, technetium-99 complexes
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of metastable, for brain imaging)
RN 14344-48-0 CAPLUS
CN L-Cysteine, N,N'-1,2-ethanediylbis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L8 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2002 ACS
 ACCESSION NUMBER: 1989:435955 CAPLUS

DOCUMENT NUMBER: 111:15955

TITLE: Ester-substituted diaminedithiols and radiolabeled complexes thereof for radioimaging the brain
 Bergstein, Paul Louis; Cheeseman, Edward Hollister;
 Watson, Alan David

INVENTOR(S): du Pont de Nemours, E. I., and Co., USA

PATENT ASSIGNEE(S): Eur. Pat. Appl., 25 pp.

SOURCE: CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 279417	A2	19880824	EP 1988-102252	19880217
EP 279417	A3	19890726		
EP 279417	B1	19920520		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE US 5279811 A 19940118 US 1988-143561 19880126 AT 76401 E 19920615 AT 1988-102252 19880217				
PRIORITY APPLN. INFO.: US 1987-16982 US 1988-143561 EP 1988-102252				
US 1988-143561 EP 1988-102252				
OTHER SOURCE(S): MARPAT 111:35955				

AB Radiopharmaceutical comprising a lipophilic, charge-neutral radionuclide complex of a diaminedithiol having >1 ester group of ACO₂R (A = C₀-6 straight or branched alkyne; R = C₁-6 alkyl) are prep'd. for radioimaging

the brain. Ester-substituted diaminedithiols I and II (R₁-12 = H, C₁-10 alkyl, ACO₂R; A = C₀-10 straight or branched alkyne; R = C₁-10 alkyl,

Ph or Bz optionally substituted with 1 to 5 ring substituents of C₁-4 alkyl, F, etc., or 5-6-membered heterocycle contg. 1-2 heteroatoms of N, O, or S; >1 of R₁-12 = ACO₂R; n, o, p = 1, 2) in sterile pharmaceutically acceptable form, and kits of the diaminedithiols and sterile, nonpyrogenic reducing agents for reducing preselected radionuclides are also provided. I (R₁-2,4,9,11-12 = H; R₃,10 = CO₂Et) with L, L stereo (II) was added to a mixt. of Na glucoheptonate, SnCl₂, and ^{99m}TcO₄. The complex was purified by HPLC on a Brownlee RP-8 Spheri

5 column. It had a partition coeff. in octanol/H₂O of 44, a rhesus monkey brain extn. & injection dose (dtd. by planar imaging) of 4.8, brain retention half-life of >1440, and a gray/white matter ratio of 2-3:1. II.2HCl was synthesized from (R)-thiazolidine-4-carboxylic acid

in 3 steps.
 IT 14344-48-OP
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and reaction of, in prepn. of ester-substituted diaminedithiol for radiopharmaceutical for brain imaging)

RN 14344-48-0 CAPLUS

CN L-Cysteine, N,N'-1,2-ethanediylbis-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

L8 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2002 ACS (Continued)

